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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,423	07/12/2001	Dieter E. Staiger	DE919990011US1	3583

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EXAMINER	
ROBERTS, BRIAN S	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/904,423	Staiger, Dieter	
	Examiner	Art Unit	
	Brian Roberts	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-28 have been examined.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been received.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Regarding claim 18, the word "means" is preceded by the word(s) "program" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

For examination purposes, "program means" is interpreted to mean "program".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-7, 9-15, 18-22, and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Neal et al.

5. In reference to claim 1, O'Neal discloses a communications control method comprising of the steps:

Determining the communications lines that will be used via the line address register (Column 3 line 65-68) (determining a subset of channels to be seized);

Transforming data stream originating from the data source into a format that can be used for transmission by automatically directing storage access to one of 32, 128 byte storage blocks (abstract and column 3, lines 55-68) (transforming the data stream to a format permitting transmission over the subset);

Transmitting and receiving data on any one or more of 32 communications lines simultaneously. (abstract)

6. In reference to claim 2, O'Neil refers to a feature "which provides an adaptive priority allocation based on the transmission rate of a given communication line. This feature allows high speed lines to be accepted for service more frequently and reduces the probability of high speed lines being overrun due to servicing of lower speed lines." (column 4, lines 15-31) This enables the utilization of the maximum transmission rate of each communication line.

7. In reference to claim 5-7, O'Neil teaches a method of referencing a scan table that includes information about the data source. The table contains information about

the number of communication lines to be used (column 15 lines 17-29), and the priority of the data (column 15 lines 1-16) (column 4 lines 15-32).

8. In reference to claim 9-11, O'Neil teaches a method of determining which communication lines are most efficient for transmission by referencing a scan table storage element that contains the data parameters for one or more of the 32 lines of the transmission facility (column 4 lines 15-32). The data parameters "include configuration information about each particular line (i.e., transmission speed, number of bits per character, synchronous or asynchronous mode, ect.)" The information is found in the scan table storage. (Figure 4)

9. In reference to claim 12-14, O'Neil teaches a mechanism to periodically access a scan table containing status and control information associated with each communication line. (column 1 lines 36-40). The priority of the information currently being transmitted is determined using the scan table and interrupt routines. (column 55 lines 24-68). Data transmit functions have a higher priority than data receive functions allowing for busy channels to be taken over. (column 4 lines 1-14)

10. In reference to claim 15 and 28, O'Neil teaches the buffering of the data stream. "Each line control block includes a two-byte buffer location for temporarily buffering data as it is being transferred from the host process or the FIG. 19 scanner". (column 6 lines 65-68, column 7 lines 1-2, Figure 3)

11. In reference to claim 18, O'Neil teaches that the microprocessor controlled communications multiplexer system is a user programmable device and it requires a program to be written and to be storage resistant in the user access memory before any

operations can commence. O'Neil further teaches, "Once the PCS program has been prepared it may be stored on one of the Series/1 disks external to the PCS for actual use or at a later point in time." (Column 57 lines 44-58)

12. In reference to claim 19, O'Neil discloses a device comprising:

A bus access controller that determines the status of the communication lines; (Figure 1 and 3, column 6 lines 4-34)

A bus channel control that allows the data to be transmitted concurrently; (Figure 1-2, column 6-8)

Multiplexing unit for transmitting data synchronous or asynchronous over any combination of 32 communication lines. (Figure 1, column 48 lines 30-68, column 49 lines 1-12)

13. Referring to claim 20-22 and 24-26, O'Neil teaches referencing a scan table that includes information about the data source and the transmission facility. The table is stored and accessed via a data and address register as shown in figure 4 and described within the detailed description of figure 4. The table contains the number of communication lines to be used (column 15 lines 17-29), the priority of the data (column 15 lines 1-16) (column 4 lines 15-32), and the transmission speed, number of bits per character, synchronous or asynchronous mode for each line. O'Neil's technique inherently includes a configuration register because such a register is necessary for storing information about the data source and transmission facility.

14. Referring to claim 27, O'Neil teaches a controller transmit interrupt structure, and transmit and receive hardware queues used in conjunction with various micro-

programmed task scheduling techniques to achieve the scheduling of receive and transmit operations. O'Neil discloses the hardware in figures 1-3. O'Neil's scheduling technique inherently includes an arbitration controller because such a controller is necessary for scheduling.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claim 3 is rejected under 35 U.S.C 103(a) as being unpatentable over O'Neil in view of Haskin. O'Neil teaches a method that allows for transmit data functions to take priority over receiving data functions and supports synchronous or asynchronous operation in any combination of 32 communication lines (column 48 lines 30-68). O'Neil does not teach redistributing the data stream among a reduced subset of channels if one or more of the channels become available. Haskin teaches the reallocation of the data being transmitted to channels that are functioning properly if a channel malfunctions. (column 5 lines 59-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the method of redistributing data disclosed by Haskins to the invention disclosed by O'Neil to allow the redistribution of data among the communication lines in use if one or more communication lines became unavailable.

17. Claim 4 is rejected under 35 U.S.C 103(a) as being unpatentable over O'Neil in view of Haskin. O'Neil teaches a method that allows for transmit data functions to take priority over receiving data functions and supports synchronous or asynchronous operation in any combination of 32 communication lines (column 48 lines 30-68). O'Neil does not teach redistributing the data among an extended subset of channels if one or more channels become available. Haskin teaches the reallocation of data if a channel becomes available. (column 5 lines 42-64) It would have been obvious to one of ordinary skill in the art at the time of the invention to add the method of redistributing data disclosed by Haskins to the invention disclosed by O'Neil to allow the redistribution of data among the communication lines in use if one or more communication lines became available.

18. Claim 8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil. O'Neil discloses the concept of using a table to store data about the data source. O'Neil's design choice stores information about the number of communication lines to be used (column 15 lines 17-29), and the priority of the data (column 15 lines 1-16) (column 4 lines 15-32) in the table. The table does not include information about the maximum bit rate of the data source that can enter the network, however, the max bit rate of the data source that can enter the network is a characteristic of the data source. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the max bit rate of the data source in the table in order to use the information to select the most efficient subset of channels for transmission.

19. Claims 16 and 17 are rejected under 35 U.S.C 103(a) as being unpatentable over O'Neil in view of Blasbalg. O'Neil describes a data stream originating from a data source that is transformed in order to be transmitted on a plurality of communication lines. O'Neil does not disclose creating data packets out of the data stream or using standard network protocol to transmit the data. Blasbalg discloses dividing the data stream into packets prior to transmission and using standard network protocols to transmit the data (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention that to create data packets as disclosed in Blasbalg prior to transmitting the data, and then transmit the data using a standard network protocol in order to utilize the bandwidth of the bus more efficiently.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are US Patent 4,074,232 to Otomo et al., US Patent 5,497,370 to Hamada et al., and 3,842,405 to Key et al. Otomo pertains to packet switching in a network. Hamada pertains to a network consisting of connected devices with a multiplexing unit for receiving a plurality of transmissions and a multiplexing unit for transmitting along a plurality of channels. Key pertains to a communications control unit integrated into a processor used to control data transfer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BSR

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